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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/756,716	01/12/2004	Youn-Sun Kim	678-1337 (P11716)	2908

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EXAMINER
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TEDOM, CLEMENT N

ART UNIT	PAPER NUMBER
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2609

MAIL DATE	DELIVERY MODE
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07/12/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/756,716

Applicant(s)

KIM ET AL.

Examiner

Clement N. Tedom

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 15-18 is/are allowed.
- 6) ☒ Claim(s) 1-14, 19 and 20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. Claims 1 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al, PG PUB 20020141349, hereinafter (Kim), further in view of Bae et al, PG PUB 20030124988, (hereinafter Bae)

#### With respect to claim 1

Kim teaches a method of controlling reverse data rates in a mobile communication system including mobile stations (MSs) for transmitting reverse data and changing reverse data rates based on rate control bits (RCBs) received from a base station (BS), and the BS for controlling the reverse data rate of the MSs (See section [0066], as well as title), the method comprising the steps of:

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generating dedicated RCBs indicating one of a rate increase and a rate decrease for individual MSs among the MSs and transmitting the dedicated RCBs to the individual MSs, respectively.( see section [0065], lines 9-20, as well as section [0112] to [0113], where RCB is dedicated to individual mobile station and contain information on adjusting the data rate).

Kim does not teach generating a global RCB.

Bae, which is in the same field of endeavor (reverse link data rate control) teaches generating a global RCB indicating one of a rate increase and a rate decrease to all of the MSs within the BS and transmitting the global RCB to the MSs (See section [0037], lines 1-3], as well as section [0039], where message indicating rate changes is broadcasted to all the mobile station).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine a global with dedicated RCB in order to shorten time required to reach the full utilization of a reverse link in a mobile communication system supporting data transmission (section [0021]).

With respect to claim 2-3

Kim in view of Bae further teaches the limitation of claim 1 for the reason above

Kim further teaches RCBs are code-multiplexed prior to transmission. (See fig 4, items 46-48 and 44,as well as section [0063]) and time –multiplexed (See section [0017], where HDR system used time slot, as well as section [0046], lines 10-13)

With respect to claim 4

Kim in view of Bae teaches the limitation of claim 1 for the reason above.

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Kim does not teach the limit of claim 4.

Bae teaches MSs are grouped into a predetermined number of groups and a different global RCB is transmitted to each of the groups (See section [0057], lines 1-7 where MS are grouped).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to group MS's into group and assign different global RCB in order to group the reverse data rate according to pilot reception power (See section [0050]).

With respect to claim 5

Kim in view of Bae teaches the limitation of claim 1 for the reason above

Kim does not teach the limit of claim 4.

Bae teaches the global RCB is determined according to a total capacity of the BS (See section [0055], lines 3-5, where RCB is determined based on BS capacity)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine the RCB according to a total capacity of the BS for the same reason as mentioned in claim 4.

With respect to claim 6

Kim in view of Bae teaches the limitation of claim 1 for the reason above.

Kim further teaches dedicated RCB for each of the individual MSs is determined according to a data rate and an interference level of the MS. (See fig 6, step S60 and step S69, as well as section [0065], lines 4-6, and lines 17-20)

With respect to claim 7-8,10

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Claim 7,8,10, appear to recite the same as claim 1,2 and 3, except for a controller and a transmitter perform the function mentioned in the above-limitation

Kim teaches a determinator that generate RCB's (fig 3, item 34, as well as section [0046], lines 5-10) and a transmitter processor as part of a base station which in turn is a transmitter/receiver (fig 3, item 35, as well as section [0047], lines 1-5) suitable for performing the above limitation.

With respect to claim 9

Kim in view of Baer teaches the limitation of claim 8 for the reason above.

Kim further teaches transmitter (base station) includes a position controller for determining positions of the global RCB and the dedicated RCBs in time multiplexing. (See section [0063], where the determinator set the position of the RCB different slot).

With respect to claim 12

Kim, as modified by Bae teach the limitation of claim 10 for the reason above.

Claim 12 limitations are covert by claim 2 and 3 combined.

With respect to claim 19

Kim teaches a method of controlling reverse data rates in a mobile.

Communication system including mobile stations (MSs) for transmitting reverse data and changing reverse data rates based on a dedicated rate control bits (RCBs) received from a base station (BS), and the BS for controlling the reverse data rate of the MSs (See title, as well as section [0065], lines 17-20).

Kim further teaches increasing a maximum reverse data rate if the dedicated RCB indicates a rate increase; and decreasing the maximum reverse data rate if the

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dedicated RCB indicates a rate decrease. (See section [0113], as well as section [0067], lines 1-4, also see abstract, last lines; where it is inherent that the maximum allowable adjustment is made).

Kim does not teach receiving a global RCB from the BS.

Bae, which is in the same field of endeavor (reverse link data rate control) teaches a global RCB indicating one of a rate increase and a rate decrease to all of the MSs within the BS and transmitting the global RCB to the MSs (See section [0037], lines 1-3], as well as section [0039], where message indicating rate changes is broadcasted to all the mobile station).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a global RCB indicating one of a rate increase and a rate decrease RCB in order to shortening time required to reach the full utilization of a reverse link in a mobile communication system supporting data transmission (section [0021]).

With respect to claim 20

Kim, as modified by Bae teach the limitation of claim 19 for the reason above.

Kim in further teaches the limitation MS neglects the dedicated RCB if the dedicated RCB is not assigned for the MS. (See section [0065], where each MS only consider the dedicated RCB assigned to it exclusively, and disregard the other).

Claims 11,13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al PG PUB 20020141349, hereinafter (Kim), as modified by Bae et al, PG PUB

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20030124988, (hereinafter Bae), and further in view of Moon et al, Patent No 6671266, (hereinafter Moon).

With respect to claim 11

Kim, as modified by Bae teach the limitation of claim 7 for the reason above.

Kim ,as modified by Bae does not teach the limitation of claim11

Moon, which is in the same field of endeavor (wireless communication system), teaches a transmitter (base station), which has a control power of the forward channel to adjust power to the level, required to reach the mobile station (See fig 6 as well as column 11, lines 36-49, where BS send message to MS at a specific power, if ACK message is not received, it increase the power)

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adjust power to the level required to reach the mobile station to separately controlling the transmitting the power of channels in a CDMA communication system using orthogonal and quasi-orthogonal codes. (See column 2, lines 36-39).

With respect to claim 13

Kim, as modified by Bae teach the limitation of claim 12 for the reason above.

Kim in view of Bae further teaches a radio frequency transmitter (See fig 3, item A4) a gain controller for multiplying the global RCB by a gain to assign a power to the global RCB enabling the MSs to receive the global RCB (See fig 4, step 34-43, as well as section [0061]).

Kim in view of Bae does not teach a spreader for Walsh-spreading the gain-controlled global RCB and orthogonally scrambling the Walsh-spread global RCB;



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Moon, which is in the same field of endeavor (wireless communication system),  
Teaches a spreader for Walsh-spreading the gain-controlled global RCB and  
orthogonally scrambling the Walsh-spread global RCB (See fig 1, as well as column 4,  
lines 19-25).

It would have been obvious to one of ordinary skill in the art at the time the invention  
was made to use a spreader for Walsh-spreading the gain-controlled global RCB and  
orthogonally scrambling the Walsh-spread global RCB to separately controlling the  
transmitting the power of channels in a CDMA communication system using orthogonal  
and quasi-orthogonal codes. (See column 2, lines 36-39).

With respect to claim 14

Kim, as modified by Bae, and Moon teach the limitation of claim 13 for the reason  
above.

Kim further teach global RCB transmitter further comprises a repeater for repeating the  
global RCB a predetermined number of times and outputting the repeated global RCBs  
to the gain controller (See fig 4, item 41, as well as section [0056], lines 6-9).

***Allowable Subject Matter***

3. Claim 15 and 17 are allowed. The prior art considered teach everything except  
for, "maintaining the reverse rate if the global RCB and the dedicated RCB are  
different". Prior art does not also teach, "increasing/decreasing the maximum data rate if  
the global and dedicated RCB indicated a rate increase/decrease.

Claim 16 and 18 are allowable because depending on allowable claims

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**Conclusion**

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Clement N. Tedom whose telephone number is (571) 270-1827. The examiner can normally be reached on Monday-Friday, 7:30-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Garber can be reached on (571) 272-2194. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CT



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